Claims:

1. A method of compressing a patient's breast to a selected compression preparatory to taking an image of the breast by a mammography machine, said machine having a movable compression paddle and a bucky fixed relative to said paddle, said method comprising the steps of,

a)mounting an inflatable interface on said bucky;

b)positioning a patient's breast on said interface:

c)moving the compression paddle toward said interface to compress the breast there between; and

d)when less than said selected compression is obtained, inflating and expanding said interface toward said compression paddle until said selected compression is obtained.

2. A method as in claim 1 including the step of

a) stopping of said compression paddle when the compression of said breast is less than said selected compression and prior to expanding said interface toward said compression paddle.

3. A method as in claim 1 wherein said inflatable interface comprises a pad having a partially expanded mode and an expanded mode, and including the steps of

a) mounting said pad in said partially expanded mode on said bucky; and

b) inflating said pad to its expanded mode to move a surface of said pad upwardly against the patient's breast and toward said compression paddle.

4.A method of imaging a patient's breast on an X-ray mammography machine, said machine having a compression paddle and a bucky for compressing a patient's breast there between, said method comprising the steps of,

a)mounting an expandable interface on said bucky;

b)positioning the breast on said interface;

c)moving the compression paddle toward said interface to compress the breast;

d)pausing movement of the compression paddle at a position wherein less than the selected compression of the breast is obtained;

e)expanding said interface to move said interface toward the compression paddle to obtain said selected compression; and

f) fine tuning the expansion of said interface and the position of said bucky to obtain the proper compression desired.

5. An inflatable pad for positioning on the upper surface of a bucky of a mammography machine as an interface between the bucky and a patient's breast when taking an X-ray image of the breast, said pad having a partially expanded mode and an expanded mode;

a) said pad including a top cover and a bottom cover for providing a bucky contact surface, each of said covers being of radiolucent material,

b) said pad having sides of a flexible, non stretchable material,

c) said pad having a relatively first side configuration in its partially expanded mode and having a second side configuration its expanded mode,

d) an air chamber formed between said top cover and bottom cover of said pad for receiving air under pressure to inflate said pad;

e) said top covering having a front section that is of stretchable material that provides a breast supporting surface;

f) said sides limiting the expansion of said pad with the exception of said breast support section that is stretchable; and

g) said breast support section being controllably inflatable to expand to compress the patient's breast.

6. A pad as in claim 5 wherein said breast support section forms a cradle for the patient's breast when said pad is in its partially inflated mode.

7. A pad as in claim 5 wherein said breast support section is even with the remainder of said top cover in said partially expanded mode and is expandable upwardly to form an elevated

platform.

8. A pad as in claim 5 wherein said pad includes a tab depending from an edge of said front section of the pad, said tab being wedged against the patient's chest wall and said bucky, when said pad is being inflated,

whereby said tab maintains said pad in position on the bucky.

9. A pad as in claim 5 wherein said pad includes tabs depending from at least one of the sides of said pad to assist in maintaining the pad on the associated bucky when the bucky is moved or tilted.

10. An inflatable pad as in claim 5 wherein

a) said top cover of the pad is formed of a plastic material and said pad is formed as a flat rectangular container; and

b) said pad is selectively expandable toward said compression paddle to compress the patient's breast.

11. An inflatable pad as in claim 5 further including,

a) air valve means connectable to an associated air source for monitoring and controlling the expansion of said pad toward and away from said paddle.

12. An inflatable pad as in claim 5 wherein

a) said front section of said top cover is positionable on said bucky and beneath a patient's breast to move up against said breast to provide an upwardly directed compressive forces to said breast when said front section is inflated and expanded.

13. An inflatable pad as in claim 5 wherein

a) said top cover has a front section, a back section and side parts formed of non stretchable material;

b) an air chamber formed between said top and bottom of said pad for receiving air under pressure to selectively inflate said pad to said partially expanded mode and to said expanded mode;

c) in said partially expanded mode said first and second section being on essentially the same plane, and in said expanded mode said second section being inflatable and expandable to a second level to provide compression forces to the patient's breast.

14. An inflatable pad as in claim 5 wherein,

a) said top cover has a first section formed of stretchable e material and a second section formed of a stretchable material, said first section forming a cradle wherein the patient's breast may be positioned;

c) in said partially expanded mode said second section being on a plane lower than the plane of said first section, and in

said expanded mode said second section being inflatable and expandable up to the level of said first section to provide compression forces to the patient's breast.

15. A inflatable pad for use with a mammography machine having a movable compression paddle and a relatively stationary bucky, said bucky having a breast supporting surface, and said compression paddle being movable downwardly toward said bucky to compress a patient's breast supported by said bucky, said pad comprising,

a) a top cover and a bottom cover:

b) an air chamber formed between said top cover and said bottom cover;

c) said pad having a partially expanded mode and an expanded mode, said pad being mountable on a breast supporting surface of said bucky in a partially expanded mode for providing an interface between said bucky and a patient's breast being supported on said bucky; and

d) said air chamber adapted to receiver air under pressure for inflating said pad to an expanded mode to provide a force underneath the breast for pushing the breast upwardly to compress the breast against said compression paddle.

16. A pad as in claim 15 wherein said top and bottom surfaces are joined and contoured to provide a surface that is

expandable to be essentially perpendicular to the upper surface of the bucky.

17. A pad as in claim 15 including means for controlling the air provided to said chamber for selectively inflating said pad to provide a firm compression force.

18. An inflatable pad as in claim 15 further including

a) means to reduce the size of said chamber when said chamber is in its partially expanded mode to expand said breast contacting surface.